

Green Manufacturing

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ABSTRACT

Green manufacturing is the process in which the production process are done with new and unique method which are helpful in establishing environment friendly operations for manufacturing. Green manufacturers research and develop such technologies by which the impact of pollution will be less on environment. It is the manufacturing of products, particularly those used in renewable energy systems and clean technology equipment of all kinds and reducing pollution and waste by minimizing natural resource use, recycling and reusing what was considered waste, and reducing emissions.

KEYWORDS: Green Manufacturing, Sustainable manufacturing, Renewable sources, Energy efficiency etc

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1. INTRODUCTION

Green manufacturing is defined as type of process in which the production system is developed by eliminating the waste and making the production environment friendly. Such solution result in cost savings from reduced work handling, effluent control, process automation etc. This manufacturing concept not just restricted to addressing the social and environmental impact of a pollution-centric process. It addresses process redundancy, ergonomics and cost implications due to faulty methods of producing goods. Several other factors such as materials used manufacture, generation of waste, effluents and their treatment, life of product and finally, treatment of product after its useful life are all important consideration.

This process will result in less use of natural resources and energy, lower carbon footprint worldwide, technology advancement that optimize efficiency and sustainability across the full manufacturing life cycle, the building of a strong foundation for a global circular economy.

2. Sustainable Manufacturing

Sustainable Manufacturing can be explained as type of system in which a large and growing number of manufacturers are realizing substantial financial and environmental benefits from sustainable business practices. Sustainable manufacturing is the creation of manufactured products through economically-sound processes that minimize negative environmental impacts while conserving energy and natural resources. Sustainable manufacturing also enhances employee, community and product safety. The manufacturing system consist of following elements such as environmental impact, personnel health, operational safety,

waste management, energy consumption, manufacturing cost etc. This can be further explain by the following diagram

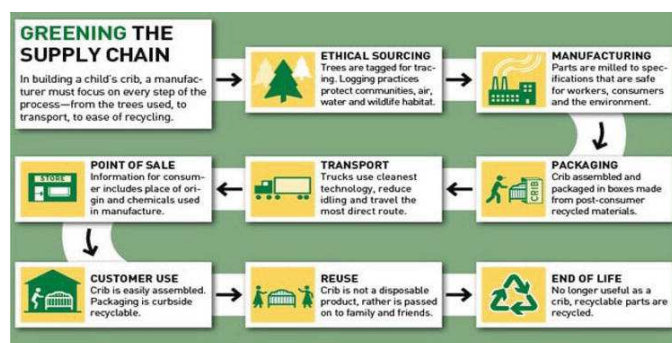


This diagram explains how the sustainable manufacturing process works.

3. Green Supply Chain management

The very purpose of implementing the 'green' factors in manufacturing supply chain design and operations decision support is to improve the environmental efficiency, reduce carbon footprint, recycle the used/waste products and byproducts, and compliance with the territorial legislations and international treaties, while the goal of supply chain is to improve the supply and distribution efficiencies, save time and money as well and satisfy the needs of the customers by providing desired quality products and services. Therefore, there is a scope to trade off among the conflicting goals of 'green' and supply chain by way of involving multiple enterprises in the supply chain network through efficient use of resources (i.e. value co-creation), collaboration/partnership (to create less emissions of greenhouse gases) and mediating roles of the enterprises.

Thus, there is a requirement to trade off among the environmental impacts of supply chains, costs and greenhouse gas emissions. The above diagram here shows how supply chain management is done and how it works:-



The above diagram shows the supply chain management and its implementation in a industry and how the chain should work so that it should be beneficial for all the sources .

4. Green Applications

Fuel is the major issue in the world, the fuel used in our day to day life is non renewable and it will get finish soon because of this the need of new fuel is necessary. The only hope is Renewable energy i.e. solar, wind, tidal, bio diesel etc. which are green products.

Air purification, the Basic and common green plants can be grown indoors to keep air fresh because all plants remove CO₂ and convert it into oxygen. Due to this the air pollution

will reduce and the life on earth will get the more oxygen and less CO₂. Sewage treatment is conceptually similar to water purification. Sewage treatments are very important as they purify water per levels of its pollution. The more polluted water is not used for anything, and the least polluted water is supplied to places where water is used affluently. It may lead to various other concepts of environmental protection, sustainability etc. Energy conservation is the utilization of devices that require smaller amounts of energy in order to reduce the consumption of electricity.

5. Conclusion

The study reflect that Industries these days have high concern for environmental protection and have strong belief that green marketing can definitely be used as a tool for gaining competitive and sustainable growth. With this view organizations are now aware with the fact that without adopting green in the core of their strategy they cannot survive in the present competitive era. Automobile companies are also adopting green to retain their image in the market.

6. References

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